DOCUMENT RESUME

ED 060 424 AC 012 429

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TITLE A Study of the Predictive Association between Congruency Measures Based on Work-Emotionality Theory and the Achievement and Satisfaction in Adult Instructional Groups.
PUB DATE Apr 72
NOTE 20p.; Paper presented at the Adult Education Research Conference (Chicago, Illinois, April 6-9, 1972)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Adult Students; Educational Research; Effective Teaching; *Emotional Response; *Group Dynamics; Instructional Design; Learning Processes; Personality Studies; Small Group Instruction; *Student Teacher Relationship; Volunteers; *Work Attitudes; Workshops

ABSTRACT

The rationale, design, and data collection methods of a study of factors that may influence the effectiveness of adult instructional groups that included interaction are discussed. Two aspects to be considered when studying instructional groups are called work and emotionality. The Work-Emotionality Theory is discussed. Six types of emotionality--fight, flight, pairing, dependency, counter-dependency, and counter-pairing--are defined. The four levels of the concept of work are given. Related research is discussed. In the present study, it was hypothesized that there were positive relationships between group relevant aspects of personality in small instructional groups of adults and the learner's learning achievement and satisfaction. Forty volunteer 4-H leaders participated in a two-day workshop. The learners ranged in age from 27 to 57. Data for the study were collected both prior to the workshop from learners and instructors and from the learners at each instructional session during the workshop. Statistical analysis of the data was carried out. The findings did not produce a uniform pattern of associations of sufficient strength to support the hypothesis. The diversity in results from group to group and from instructor to instructor point to the fact that group relevant aspects of personality had a measurable effect. (DB)

ED 060424

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# A STUDY OF THE PREDICTIVE ASSOCIATION BETWEEN CONGRUENCY MEASURES BASED ON WORK-EMOTIONALITY THEORY AND THE ACHIEVEMENT AND SATISFACTION IN ADULT INSTRUCTIONAL GROUPS

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A paper presented at the 1972
Adult Education Research Conference
April 6-9, 1972
Chicago, Illinois

AC012 429

INTRODUCTION:

Groups are used extensively to conduct adult education programs. Many times group meetings include interaction as part of the learning group experience.

This study was an attempt to look at some factors that may influence the effectiveness of adult instructional groups that included interaction.

Bales' (1) definition of a group was appropriate for this study:

> A small group is defined as any number of persons engaged in interaction with each other in a single face-to-face meeting or a series of such meetings, in which each member receives some impression or perception of each member, distinct enough so that he can either at the time or in later questioning, give some reaction to each of the others as an individual person, even though it be only to recall that the other was present.

In order to control as many factors as possible while involving an actual adult education program an experimental design was utilized.

The purpose of this paper is to present the rationale for the study, the design, and the methods used to collect data. It is not the intent to deal in any detail with the findings of the study.

RATIONALE:

An instructor usually has preconceived expectations as to what he wants an instructional group to accomplish. He has some hopes and expectations of what the session will be like. Participants, too, come to the session with their hopes and expectations. The expectations of the instructor and the participants are based partly on previous experiences in similar groups. The instructor and participants in a meeting or workshop enter the instructional situation as individuals with unique personalities. Their personalities influence personal needs and expectations in the group situation (4). Groups sometimes devote more effort to meeting personal needs of individuals and setting a structure within the group than a work or the group task.

Instructors and participants in adult instructional groups have perceptions of what the actual situation was like. Given the idea that group instructors and participants have expectations and preferences as well as perceptions of instructional situations, the following questions, on factors that may influence instructional group effectiveness gave direction to this study: How is participant behavior affected if what participants perceive to be happening in the session is quite different from what they prefer? What does this do to the effectiveness of the group in accomplishing its learning task and to participant satisfaction?

When studying instructional groups two important aspects of group life need to be considered. These are cognitive and affective or knowledge and feeling. They are also called task and social-emotional. In the theoretical framework of this study they are called work and emotionality. These two aspects are important on the part of both the individual instructor and participant, and the group in an interacting instructional group.

WORK-EMOTIONALITY THEORY:

The Work-Emotionality Theory provided the underlying framework for this study. The theory was origionally developed by Bion (2) as a result of extensive work with therapy groups at Tavistock Clinic. As a result of his observations in the groups, he developed the idea that a group could be thought of in terms of emotional states. These emotional states, which he called "basic assumption cultures," included some affective need which was interrelated with the work or task the group was trying to do. He concluded that they are interrelated to the extent that one never occurs without the other, therefore, group life can be understood only when these components are studied in the context of their dynamic and changing relationships. He also saw the individuals

in the group contributing toward, agreeing with or reacting against these cultures. The relationship between the individual and the culture Bion referred to as "valency."

Bion defined work as the conscious goal-seeking, task aspects of group life and emotionality aspects as nonpurposive, "instinctual," and not under conscious control. He described the emotional aspects of group life in terms of three cultures which are dependency, pairing, and fight-flight.

These emotional states influence and exist in combination with the work aspects in group life.

Thelen (8) and associates at the Human Dynamics Laboratory added certain modifications and refinements to Bion's origional theory as they operationalized the theoretical framework in their work with laboratory training groups. In their search for a conceptual scheme to study group interaction, they sought one that would not separate individual, group, and societal levels. They were looking for concepts which allow for direct prediction from personality data to member behavior without the necessity of shifting from a distinct psychological frame of reference to a separate social one. They found Bion's concepts of group culture and valency useful in looking at the total group and the individual's tendencies in the group (7).

Stock and Thelen (7) contend that there are two fundamentally different modes of group life. One is emotional and other is sober and orderly. Because of the difference in pyschological purposes of the two modes, stresses result when the group attempts to work out its mode of operation. Individuals react differently to these stresses and develop different amounts of tension. Thelen postulated that the individual factors in personality will be categories descriptive of stresses to which individuals are sensitive and of means individuals

use to deal with stress. These categories represent group-relevant aspects of personality. They are the individual's predispositions to act in support of some work-emotionality culture of the group and form a pattern of internal tendencies.

WORK EMOTIONALITY CATEGORIES:

The work and emotionality conceptual categories are descriptive of the individual's predisposition to deal with stress in group interaction and also describe the modes of operation or culture of the interacting group.

Thelen and associates (7) as they refined Bion's theory indentified five types of emotionality and divided the concept of work into four levels. The types of emotionality are fight, flight, pairing, dependency and counter-dependency. Boyd and associates (9) at the Adult Education Laboratory, at the University of Wisconsin, operationalized counter-dependency and conceptualized counter-pairing.

The six types of emotionality briefly defined are:

Fight - expressions of hostility and aggression.

Flight - Expressions of avoidance of the problem or withdrawal from participation.

Pairing - expressions of warmth, intimacy and supportiveness.

Dependency - expressions of reliance on some person or thing external to the membership.

Counter-dependency - expressions of concern over threat to personal autonomy resulting from reliance upon one of a group of individuals for direction, upon subject matter, or upon a rigid methodology.

Counter-pairing - expressions which indicate that there is a desire for formality, detachment, or simply a rejection of any pairing or friendliness with others (9).

The concept of work was divided into four levels by Thelen and his research team as follows:

Work Level 1 - is personally need-oriented and unrelated group work.

Work Level 2 - is maintaining or routine in character. It may involve attempting to define a task, searching for methodology,

clarifying already established plans, and the like.

Work Level 3 - is group-focused work that introduces some new ingredient: active problem-solving.

Work Level 4 - is highly creative, insightful, and integrative. It often interprets what has been going on in the group and brings together in a meaningful way a series of experiences (7).

RELATED RESEARCH:

This study was an exploratory attempt to determine the possible predictive association of group relevant aspects of personality and learning achievement and satisfaction. Associates of Boyd have previously conducted studies with natural adult instructional groups applying the concepts of the Work-Emotionality Theory. Portal-Foster (6) conducted a study, involving nursery school teachers, to determine the applicability of Work-Emotionality Theory to the empirical study of adult instructional groups. He concluded that the theory is a highly operational framework for use in the scientific study of adult learning situations. Watson (9) studied the relationships between the individual group member's ideal expectations, predictive expectations, perceptions of the group culture and his satisfaction within the culture. The study indicated that satisfaction was the highest for members who perceived the group culture as being similar to their predictive expectations. Borger (3) studied the predictive association between the ego-stage and group relevant aspects of personality and learner satisfaction and learner achievement on the basis of the degree of congruence in teacher-learner dyads in adult learning courses. He concluded that, to a limited extent, the data indicated that the teacher in an adult group will function as the most significant other in the learners interactional relationships.

Recognizing that the instructor and his behaviors, the individual participant and his behaviors and the total group and its behaviors are three important components that influence what happens in an instructional group, they were the dimensions looked at in this study, in the context of work and emotionality concepts (5).

The group relevant aspects of personality in terms of the six emotionalities of fight, flight, pairing, counter pairing, dependency, and counter-dependency in combination with four work levels formed the basis of determining participants' preferences for individual and group behaviors. The same variables were used to determine perception of the group situations as perceived by participants. The similarity or dissimilarity factor between preference and perception in terms of work and emotionality variables, known as congruence was the independent variable. The extent of congruence or incongruence were the independent variables and learning achievement and satisfaction in the instructional group were the dependent variables. Statistical techniques were used to determine strength of association. The attempt was to relate dimensions of personality already known to learning achievement and satisfaction in a controlled experimental-field instructional situation.

By applying the Work-Emotionality Theory to adult instructional groups, it was hoped that additional knowledge on factors that may influence effectiveness of groups would be gained. The study was designed to include two variables not included in previous studies. They were: (1) congruence between the learner's preference for instructor work and emotionality behaviors and the learner's perception of the group situation, and (2) congruence between the individual's expressed work and emotionality behavior preference and his perception of the group situation as they relate to his learning achievement and satisfaction.

ASSUMPTIONS:

For this study it was assumed that the following phenomena were possible:

1. That instructors and participants in adult instructional groups, in those aspects of their personality related to behaviors while in a group, may have certain tendencies toward certain behaviors to deal with stress in group interaction.

2. That the tendencies toward certain behaviors to desl with stress in group interaction may differ for different instructors and participants in adult instructional groups.

3. That instructors and participants in adult instructional groups have perceptions of certain kinds of behaviors that occurred during the interaction in which they participated.

4. That learners in adult instructional groups may perceive the interactional behaviors which occur in the instructional group to be different from those which they prefer as the part of (a) instructor, (b) the group, and (c) themselves.

PROBLEM:

The problem investigated in this study was stated in the form of these three general questions:

1. In a small instructional group of adults where there is interaction, is there a positive relationship between the extent of congruence of the preferred group situation and the perceived group situation and the learner's learning achievement and satisfaction?

2. In a small instructional group of adults where there is interaction, is there a positive relationship between instructor-learner congruence in ideal group preference and learner learning achievement and satisfaction?

3. In a small instructional group of adults where there is interaction, is there a positive relationship between instructor-learner congruence in expressed relations profiles and learning achievement and satisfaction?

HYPOTHESES:

It was hypothesized that there were positive relationships between group relevant aspects of personality in small instructional groups of adults and the learner's learning achievement and satisfaction.

## METHODOLOGY

DESIGN:

This study involved a four-by-four experimental design. There were four groups of ten people each that met in the same groups for four different instructional sessions.

The people, hereafter called participants or learners, were randomly assigned to the four instructional groups. The two variables that were different from session to session were content unit and instructor. Each group was presented with and involved in discussion of the same content unit at the same time and in the same order for the four sessions of the workshop. The instructors were assigned in a restrictively random manner so that each instructor taught each content unit to one of the four groups and each of the instructors met with each group once during the course of the workshop. By using this approach, the order of the instructor was different for each group and the order of content units was the same for each group.

A diagram of the design specifying group, content unit, and instructor follows:

| Time | Group I N=10 | Group II N=10 | Group III N=10 | Group IV N=10 |
|---|---|---|---|---|
| Friday 1:30 - 4:30 p.m. | A<br>W | B<br>W | C<br>W | D<br>W |
| Friday 6:30 - 9:30 p.m. | B<br>X | D<br>X | A<br>X | C<br>X |
| Saturday 8:30 - 11:30 a.m. | C<br>Y | A<br>Y | D<br>Y | B<br>Y |
| Saturday 1:00 - 4:00 p.m. | D<br>Z | C<br>Z | B<br>Z | A<br>Z |

Instructors = A,B,C,D
Content Units = W,X,Y,Z

A diagram of the design indicating the order of groups for each instructor follows:

| Time | Instructor A | Instructor B | Instructor C | Instructor D |
|---|---|---|---|---|
| Friday<br>1:30 - 4:30 p.m. | I<br>W | II<br>W | III<br>W | IV<br>W |
| Friday<br>6:30 - 9:30 p.m. | III<br>X | I<br>X | IV<br>X | II<br>X |
| Saturday<br>8:30 - 11:30 a.m. | II<br>Y | IV<br>Y | I<br>Y | III<br>Y |
| Saturday<br>1:00 - 4:00 p.m. | IV<br>Z | III<br>Z | II<br>Z | I<br>Z |

Groups = I, II, III, IV
Content Units = W, X, Y, Z

SELECTION OF INSTRUCTORS:

In order to strengthen one of the treatments of the instructional groups, it was decided to select instructors on the basis of certain group relevant aspects of personality. Four instructors were selected from ten staff members of the University of Wisconsin Extension Department of Youth Development. Two men and two women were selected as instructors because they provided a range in group relevant aspects of personality as determined by analysis of their responses to two instruments. A setback in this plan occurred when two of those selected found it impossible to participate due to personal reasons. An attempt was made to select two individuals from those remaining that would still represent a range of group relevant aspects of personality; however, the range became very limited and rather than representing strong differences they were quite similar. These changes introduced limitations into the study not originally planned.

PARTICIPANTS:

Forty volunteer 4-H leaders were either selected by Extension Youth Agents or volunteered to participate in the two-day workshop. The learners ranged in age from 27 to 57. The lowest level of education attained, as indicated by the number of years of formal schooling was high school and the highest was high school plus five years.

CONTENT UNITS:

The content units which provided the basic instruction were audio-visual, in the form of slide-tape sets. The format was cartoon characters on slides with narration and background music on tape. Each slide-tape set was approximately 14 minutes in length. In addition, each unit included a printed study guide which was available to be used in the instructional session at the discretion of the instructor.

The content units provided the basis for knowledge testing in the form of the content knowledge questionnaires administered at the beginning and end of the instructional session.

STEPS IN EXPERIMENT AND DESCRIPTION OF INSTRUMENTS:

Data for the study were collected both prior to the workshop from learners and instructors and from the learners at each instructional session during the workshop. The Ideal Group Q-Sort and Expressed Relations questionnaires were administered by the researcher to the instructors prior to the workshop. The Ideal Group Q-Sort is an instrument designed to gather data on a subject's perception of his preferred work and emotionality behavior patterns in group life. It consists of 72 statements on individual cards. Included are 24 distinct categories with three items per category. Each category is one emotionality in combination with a work level. For example, "Pairing-Work Level 1" is a category. To illustrate, one of the statements in the Q-Sort in this category is:

> I think members should remind the group of the need for unity and warmth.

Subjects responded by sorting the cards into a forced distribution of 11 piles. The distirbution of the 72 responses is in ascending and descending curves according to the subjects' judgement of the statements in the range "most like" to "least like" with a neutral alternative in the middle.

The Expressed Relations Questionnaire is an instrument which is designed to gather data on a subject's preference for his own behavior in a group in terms of work and emotionality. The 72 items include the same 24 distinct categories with four levels of work and six of emotionalities. There are three items per category. The context of the statement is in terms of what the individual's perception of what he likes to do in work and emotionality terms when in a group. To illustrate, the following is a statement on "Dependency-Work Level 2," taken from the questionnaire:

> I try to give group leaders major responsibility for planning group activities.

The subject responds to each item on a seven-point scale ranging from Very Seldom or Never to Very Frequent with the alternative Vacillate in the middle.

The Expressed Relations questionnaire was administered by the researcher to the instructors and the learners prior to the workshop. Analyses of the responses by instructors were used to select instructors. Analyses of the responses by instructors and learners were used to determine instructor-learner congruence scores for preferred member behavior in the small instructional group.

The Ideal Group questionnaire was administered to learners prior to the workshop. The Ideal Group Questionnaire is an instrument designed to gather data on a subject's perception of his preferred behavior patterns in group life. The subject is required by the questionnaire to indicate his preference for a particular type of behavior as illustrated by four levels of work and

six emotionalities with three items per category for a total of 72. The context is different in that it applies to the subject's preference for work and emotionality behaviors of the instructor in the instructional group instead of those of the group or the subject. To illustrate, the following is a statement on "Pairing-Work Level 3," taken from the questionnaire:

> I feel an instructor should evaluate the group's decisions and accomplishments frequently in friendly discussion sessions.

The subject responds to each item on a seven-point scale ranging from Strongly Disagree to Strongly Agree with the alternative Vacillate in the middle.

The Group Work and Emotionality Q-Sort consists of 24 statements on individual cards. Each statement is representative of one of the 24 work and emotionality categories on the Ideal Group Questionnaire. The items are phrased in a manner to allow the subject to respond in relation to the instructional group situation of which he has been a part. He responds as he perceived what the work and emotionality behaviors in the learning group have been.

SATISFACTION INSTRUMENT:

The satisfaction instrument was designed to measure the subject's satisfaction with the work and emotionality behavior patterns of the instructional group. The subject was asked to respond on how the group lived up to his ideal preference for work and emotionality behaviors, as indicated previously by his responses to the Ideal Group Questionnaire.

LEARNING ACHIEVEMENT:

Knowledge gain resulting from each instructional session was determined by administering 15 item objective pre- and post-tests. Equivalent forms namely an A and B form were used. Prior to instruction one-half of the learners received either form A or B. At the conclusion of instruction, those who had previously received A received B, and previously receiving B received A.

METHODS USED TO DETERMINE CONGRUENCE:

Congruence scores for each of the three independent variables, Ideal Group, Expressed Relations and Ideal Instructor Preference-perceptions were determined by calculating the absolute difference between the scores for each of the 24 work and emotionality categories on the questionnaires. This was done for each participant and each instructional session. Congruence scores for Ideal Group and Expressed Relation by instructor-learner dyads were determined by calculating the absolute differences between scores of the instructors and learners for each of the 24 work and emotionality categories.

STATISTICAL ANALYSIS OF DATA:

Statistical analysis of the data for hypotheses testing was carried out by obtaining correlation coefficients between congruence scores and knowledge scores and between congruence scores and learner satisfaction scores. Coefficients of correlation were obtained for the following pairs of variables:

1. Learner ideal group preference-perception congruency vs. knowledge gain score.
2. Learner ideal group preference-perception congruency vs satisfaction score.
3. Learner expressed relations preference-perception congruency vs knowledge gain score.
4. Learner expressed relations preference-perception congruency vs satisfaction score.
5. Learner ideal instructor preference-perception congruency vs knowledge gain score.
6. Learner ideal instructor preference-perception congruency vs satisfaction score.
7. Learner-instructor ideal group preference congruency vs knowledge gain score.
8. Learner-instructor ideal group preference congruency vs satisfaction score.

9. Learner-instructor expressed relations preference congruency vs knowledge gain score.

10. Learner-instructor expressed relations preference congruency vs satisfaction score.

Correlation coefficients for these variables were obtained to determine if there was a statistical relationship at the .05 level of significance.

The data were analyzed to obtain correlation coefficients by conducting the analysis in three ways: (1) each instructional group of ten subjects was analyzed individually for each instructional session for each of the ten pairs of variables mentioned above, (2) the four groups were combined and analyzed by session for each of the aforementioned pairs of variables, and (3) the four groups were combined and analyzed by instructor for each of the ten pairs of variables mentioned above.

The Pearson Product Moment technique was used to obtain coefficients of correlation for the pairs of variables.

FINDINGS:

The findings of this study did not produce a uniform pattern of associations of sufficient strength to support the hypotheses. There was a range of associations from very weak to moderately strong both in the positive direction hypothesized and the direction opposite to that hypothesized.

It was interesting to note that when reviewing all the possible relationships for the five independent variables, by instructor it was found that for Instructor A there were 26 of 40 in the hypothesized direction. Two of these were significant at the .05 level. Instructor D had 13 of 40 for the lowest number of correlations in the hypothesized direction.

When reviewing all possible associations by session, it was found that for Session I there were 15 of 40 correlation coefficients in the hypothesized direction compared to Session IV for which 27 of 40 were in the hypothesized direction.

When reviewing all possible associations by session, it was found that for Session I there were 15 of 40 correlation coefficients in the hypothesized direction compared to Session IV for which 27 of 40 were in the hypothesized direction.

It appeared that although relationships revealed by data analysis were not sufficient in strength and in large numbers in the direction hypothesized to support the hypotheses, that a distinct difference could be noted between instructors involved with the same groups and between sessions which involved different content for instruction and also represented different points in time in the life of each group of ten people.

DISCUSSION:

The findings of this study did not provide evidence to support a predictive association, as hypothesized, at the specified level of significance. In terms of practice, however, there appeared to be a limited number of observable trends. In some cases, as incongruence increased, so did learning achievement and satisfaction and, in other cases, as congruence increased, so did learning achievement and satisfaction. This would seem to indicate that in some cases more learning takes place when the group situation is perceived as being incongruent to that preferred by the participant.

The trends observed on the part of the apparent differential effect of the content unit, the instructor and the group appear to indicate the importance of considering all three when evaluating the effectiveness of adult instructional groups for learning achievement and satisfaction. The group relevant aspects of personality of the instructor and participants in various combinations appear to provide an appropriate framework for additional study of the effectiveness of adult instructional groups.

PROBLEMS AND LIMITATIONS:

Several porblems and limitations were encountered during the course of this study. They are:

1. There was a limitation on the potential for knowledge gain on the part of many participants. The knowledge level of the participants with regard to the content to be taught by the content units was relatively high.

2. The participants in the experiment turned out to be a relatively homogeneous group. This was due in part to the high degree of selectivity in terms of potential learners given the opportunity to participate in the workshop. The result was that there was a limited range in the congruence variable among participants.

3. The instructors in the experiment represented a limited range of group relevant aspects of personality. This resulted when two of the instructors previously selected because of differences of their group relevant aspects of personality withdrew from participation in the experiment due to personal reasons.

These were limitations and problems which, no doubt, affected the outcome of the study.

CONCLUSIONS:

This study attempted to test an aspect of the Work-Emotionality Theory in Adult Instructional Groups. The goal was to add to our knowledge of the potential association between congruence measures of work and emotionality categories and learning achievement and satisfaction. The uniform lack of statistically significant results in either the positive or negative direction leads to several conjectures.

It could be posited that the theory had been falsified in that the results did not support the hypotheses. It may be argued that the theory is not sensitive to situations involving relative homogeneity in terms of congruence as found in this experiment. It must be recalled that the underlying assumption of the theory is that individuals possess group relevant aspects of personality. They have been categorized as fight, flight, pairing, counter-pairing, dependency, and counter-dependency to describe means that individuals use to deal with tensions resulting from stresses in group interaction.

Due to the limitations of the study and the inconclusiveness of the results it appears illogical at this time to conclude that the theory in fact was falsified. It appears that the theory was not tested to the fullest extent possible in this experiment.

IMPLICATIONS FOR RESEARCH:

This study has demonstrated the appropriateness of a controlled experimental design for doing research with adult instructional groups in a field setting. There was no evidence of any adverse effect on the workshop or instructional groups resulting from the extensive data-gathering procedures. The extent of diversity in results, from group to group and instructor to instructor, although not statistically significant, point to the fact that group relevant aspects of personality had a measurable effect. Further study utilizing this conceptual framework making use of an experimental design could be fruitful to further test the theory.

The approach and theoretical framework appear to be appropriate for further study of personality variables in relation to learning achievement and satisfaction in adult instructional groups. To make the research more effective, the following recommendations are offered:

1. Select content to be taught that is new to participants and difficult to the extent that there is a wide range of potential learning achievement among the group participants.

2. Select participants that provide for a range in group relevant aspects of personality to the extent that there is maximum heterogeneity among the total group of participants.

3. Pre-select instructors to get a maximum range in terms of group relevant aspects of personality.

4. Construct an instrument to measure learner satisfaction that both includes a greater number of items and will be more discriminating between participants.

5. Include either a participating or nonparticipating observer in each group to collect observational data on group behavior and interaction.

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